DCLS

The Division of Consolidated Laboratory Services (DCLS) provides high quality laboratory testing services and support 24/7 to a diverse group of local, state and federal agencies that serve to protect the health, safety and security of citizens of the Commonwealth and the nation. Services include laboratory testing, consultation, training, laboratory certification, sample collection, kits and instructions, and a statewide courier service. Annually, DCLS performs over 7 million tests to identify genetic and metabolic disorders in newborn children, infectious agents and toxic chemicals in humans, animals, the environment, the food we eat and the water we drink. Each year, DCLS trains over 5,000 scientists, certifies nearly 100 laboratories, receives over 1 million samples, and prepares and distributes over 300,000 test collection kits across the state.

PREPAREDNESS AND EMERGENCY RESPONSE

- DCLS has performed terrorist threat screening for biological and chemical agents for the Library of Congress, NASA, U.S. Department of State, U.S. Postal Service, local emergency response personnel, Virginia medical treatment facilities, and the U.S. Army Corps of Engineers.
- DCLS was one of the first U.S. laboratories approved by the CDC to test clinical specimens for epidemic H1N1 in 2009 and the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in 2013.
- Selected by the Centers for Disease Control and Prevention as one of first 13 state public health laboratories in the Nation to receive testing reagents and procedures to detect Ebola Virus using a Department of Defense developed polymerase chain reaction (PCR) assay.
- Each year DCLS screens more than 100,000 infants for 28 genetic or metabolic disorders that can be treated and save a child's life if detected early. These disorders are present at birth, are very rare, and often result in serious life threatening conditions. Some are passed on from parents, while others are caused by a chemical imbalance. While some are life-threatening if undetected and untreated, others may slow down mental or physical development or cause other problems. These disorders can affect a child early in life, often within the first few days or weeks after birth.
- DCLS was awarded a two-year grant by the CDC to support Virginia's implementation of newborn screening for Severe Combined Immunodeficiency (SCID). SCID is a group of inherited immune disorders that if detected early in life is treatable. If undetected and untreated,

most babies with SCID die before 2 years of age.



- Over the past few years, 24/7 emergency laboratory support was provided by DCLS for a number of well publicized events including:
 - Testing support that led to national food alerts and/or recalls including the Salmonella and aflatoxin contaminations in foods including peanut butter, peppers, tomatoes, alfalfa sprouts (2009 2014).
 - Testing in support of numerous Mumps outbreak investigations at local universities (2012 to 2013).
 - Chemical testing for over 100 legal cases under chainof-custody in the Chemical Terrorism Preparedness and Emergency Response section for law enforcement investigating poisonings, deaths, food adulterations, and unusual cases (2010-2013).
 - Testing for 1,300 hazardous material cases, performing between 12–25 determinations on each case depending upon the risk assessment and exposure conditions. Number of tests performed were between 4,908 to 10,225, depending upon the severity and priority of the investigation (2010-2013).
 - Testing on samples from a local Virginia hospital where Botulinum toxin B was detected in the clinical sample and from an associated environmental soil sample (2013).
 - Participation in the Presidential Inaugural food testing assignments at the request of the FDA and USDA FERN Program in January 2013. DCLS tested samples for *C. botulinum*, *B. anthracis*, and Staphylococcal Enterotoxin, Ricin, arsenic, cyanide and radionuclides.
 - Analyzed tissue samples for the Department of Environmental Quality from a large fish kill at Lake Anna (2012).
 - Performed air quality testing following avian influenza decontamination efforts at a poultry farm.



DCLS

Division of Consolidated Laboratory Services: Department of General Services

- Tested water from the James River following recurrent complaints and media reports of excessive foam.
- Tested contaminated water and foof samples at a Boy Scout Camp in Goshen attended by over 1,700 Scouts (2012).
- First laboratory in the U.S. to detect the fungal agent associated with numerous cases of meningitis associated with a national recall of injectable steroids (2012).
- Tested specimens for a foodborne outbreak at a Boy Scouts Camp in the New River Health District where over 200 Scouts were experiencing gastrointestinal illness (2011).
- Analyzed raw milk submitted by the Virginia Department of Health for radiation screening. Iodine 131, Cesium 134, and Cesium 137 testing was completed over a weekend and results were provided to the Virginia Health Commissioner (2011).
- Tested samples from a suspected meth lab, including several liquids and powders (2011).
- Served as the first laboratory in the nation to isolate a strain of Salmonella from a sample of Turkish pine nuts (2011).
- Provided emergency drinking water bacteriological testing for flooded wells recovering from Hurricane Irene (2011).
- Provided radiochemistry testing capabilities and capacity to the FDA in case expanded food testing was needed for the response to the Fukishima Diiachi incident in Japan (2011).

INNOVATION

- DCLS has become a national training "Center of Excellence" over the past five years for both the CDC and USDA. The DCLS facility includes two large multi-use conference rooms and multiple surge/training laboratories designed for safely training scientists to work with chemical and biological agents
- DCLS is a member of the National Laboratory Response Network performing chemical and biological testing; the Food Emergency Response Network performing chemical, radiological, and biological testing; the Environmental Response Laboratory Network testing environmental samples for chemical warfare agents; and Bio-Watch Program performing testing of air filters from sites throughout Central Virginia for biological agents of terrorism
- DCLS was selected by the CDC PulseNet National Molecular Subtyping Network as the Mid-Atlantic Regional Laboratory in 2000 and provides laboratory testing support to Virginia, North Carolina, Maryland, West Virginia, Delaware, Pennsylvania, the City of Philadelphia and the District of Columbia.
- DCLS is one of 22 laboratories in the United States able to detect smallpox.



- Virginia was one of the three highest ranking states in a
 national emergency preparedness and response survey by
 Trust for America's Health (TFAH). The TFAH report
 recognized DCLS for enhancing laboratory capabilities
 and providing rapid response identifying biological and
 chemical agents.
- The DHS/EPA Emergency Response Laboratory Network (ERLN) selected DCLS as the first state lab to enhance testing services to include Chemical Warfare Agents in the environment.
- Virginia was selected as one of six states to participate in the national APHL/CDC Public Health Laboratory Interoperability Project with the goal of developing a standardized process for the rapid and secure electronic transmission of test orders and results across state and federal public health partners, using standardized messaging and vocabulary.
- Virginia was the first state to successfully build the necessary functionality into a public health Laboratory Information Management System (LIMS) to transmit influenza testing results to the CDC.
- DCLS was one of the first successful pilot states to implement standardized electronic HL7 reporting for agents of bioterrorism to the CDC Laboratory Response Network (LRN).

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